

Docket No.: 2336-254

PATENT

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (original) A method of fabricating nitride semiconductors in a Metal-Organic Chemical Vapor Deposition (MOCVD) reactor, the method comprising the following steps of:

- (a) depositing GaN on an inner wall of the MOCVD reactor;
- (b) loading a sapphire substrate into the MOCVD reactor;
- (c) heating the sapphire substrate and injecting etching gas into the MOCVD reactor; and
- (d) injecting  $\text{NH}_3$  gas into the MOCVD reactor to nitrify the surface of the sapphire substrate.

2. (original) The method of fabricating nitride semiconductors according to claim 1, wherein the step (c) irregularly etches the surface of the sapphire and re-deposits the GaN onto the surface of the sapphire from the inner wall of the MOCVD reactor.

3. (original) The method of fabricating nitride semiconductors according to claim 2, wherein the GaN re-deposited onto the sapphire is amorphous or polycrystalline.

4. (original) The method of fabricating nitride semiconductors according to claim 1, further comprising the step of growing a nitride semiconductor layer on the nitrified surface of the sapphire substrate after the step (d).

5. (original) The method of fabricating nitride semiconductors according to claim 1, wherein the sapphire substrate is replaced by one selected from a group including a silicon carbide (SiC) substrate, an oxide substrate and carbide substrate.

6. (original) The method of fabricating nitride semiconductors according to claim 1,

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wherein the  $\text{NH}_3$  gas is replaced by one selected from a group consisting of tertiary-butylamine ( $\text{N}(\text{C}_4\text{H}_9)_2$ ), phenylhydrazine ( $\text{C}_6\text{H}_5\text{N}_2$ ) and dimethylhydrazine ( $\text{C}_2\text{H}_8\text{N}_2$ ).

**7-11. (cancelled)**